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	EXAMINER
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ART UNIT	PAPER NUMBER
2623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/903,980	OZ ET AL.
	Examiner	Art Unit	
	Johnny Ma	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11 January 2006_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-54, 84-128, 148 and 149_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-42, 84-122, 148 and 149_ is/are rejected.

7)☒ Claim(s) _43-54 and 123-128_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _11 July 2001_ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _8/6/01_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Applicant's election without traverse of claims 1-54, 84-128, and 148-149 in the reply

filed on 1/11/06 is acknowledged.

Specification

2.   The disclosure is objected to because of the following informalities:

"router 166" should read –router 116- (pg. 24, line 22);

"17" should read –117- (pg. 24, line 24); and

"$34_{R,Q}$" should read -$34_{1,Q}$- (pg. 25, line 1)

Appropriate correction is required.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

do not include the following reference sign(s) mentioned in the description: "35_1-35_Q" (pg. 25,

line 2) and "500" (pg. 23-24. [0097]). Corrected drawing sheets in compliance with 37 CFR

1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any

amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either

"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

accepted by the examiner, the applicant will be notified and informed of any required corrective

action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4.   Claim 1 is objected to because of the following informalities: "lest some of the" (line 4)

should read -least some of the-. Appropriate correction is required.

5.   Claim 148 is objected to because of the following informalities: "according to any of the

claims 1, 23, 43 and 65" (line 1) should read - according to any of the claims 1, 23, and 43 and

65-. Appropriate correction is required.

6.   Claim 149 is objected to because of the following informalities: "according to any of the

claims 84, 104, 123 and 132" (line 1) should read - according to any of the claims 84 and 104-.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-9, 12, 16-20, 84-90, 93-97, 100, 104-115, 118, and 148-149 are rejected under

35 U.S.C. 102(b) as being anticipated by Joseph et al. (US 5,915,090).

As to claim 1, note the Joseph et al. reference discloses an apparatus for transmitting a

distributed computing application on a broadcast television system. The claimed "a transmitter,

for transmitting an application packet group to at least one end user" is met by "[p]acket streams

from all of the channel sources (108, 108a) are multiplexed into a single transport channel, which

is transmitted through transport mechanism 30" (Joseph 10:44-48) wherein the packet stream

includes an application packet group (Joseph 10:11-45) and the transport mechanism 30 is

transmitted to client computers (Joseph 10:46-58). Note, that the claimed transmitter is inherent

to the transmission of the packets streams through transport mechanism 30. The claimed "at

[least] some of the at least one end-user have a display unit and a control unit" is met by client

computer 22 and display screen or other output device (Joseph 4:16-20). The claimed "the

control unit is configured to control the display unit" is met by "[t]he client computer 22 interacts

with a user 80 by providing information to the user via a display screen...and by accepting

information from the user via a keyboard or other input device" (Joseph 16-20) wherein the

client computer 22 controls display (Joseph 13:50-65). The claimed "a controller, for selecting

application code portions to be embedded in application packets and to provide the transmitted

application group packet" is met by "a source of distributed computing application code and data

101 includes an application compiler, and software management module (not shown) and has an

output terminal coupled to an input terminal of a flow builder 102" (Joseph 9:26-30) wherein

"[f]low builder 102 processes the data from the application source 101...After this processing ins

complete, the data representing directory module and the code and data modules are repetitively

presented to the transport packetizer 104" (Joseph 10:23-26) and transmitted (Joseph 27-48).

The claimed "the application packet group comprising application packets embedding the

selected code portions" is met by "the distributed computing application may be divided into

more than one code module, each containing executable code for a different portion of the

distributed computing application" (Joseph 13:32-35). The claimed "wherein the control unit of

each user-end is configured to process the application packets" is met by client computer 22

processes the application packets (Joseph 12:19-13:16). The claimed "and accordingly (i)

display at least a portion of a visual object on the display unit or (ii) react to events that are

related to the display of the at least portion of the visual object on the display unit" is met by "the

client computer 22 may, in response to execution of the executable code module, generate

graphic displays to supply information to the user 80" (Joseph 6:53-56) wherein "[t]o retrieve

this data, processor 210 first instructs stream I/O adapter 208 to send a selection control signal to

the stream selector 202, possibly in response to user input form user I/O adapter 220. Then

processor 210 issues a request for a specific code or data module to the stream I/O adapter 208.

Stream I/O adapter 208 relays this request to the packet data extractor 204" (Joseph 12:58-67).

As to claim 2, the claimed "wherein some application packets further include code for

manipulating the at least portion of the visual object" is met by "[c]ode and data modules making

up the interactive television application may include data about the products which will be

offered for sale during this show, or portion of the shot, and executable code to interact with the

user...When a viewer wishes to order an item, a button is pressed on the TV remote control.

This button signals the client computer 22 to display a series of instructions and menus necessary

to solicit the information necessary to place the order...These instructions are generated in the

client computer as graphics which are overlaid on the television video image" (Joseph 8:24-53).

As to claim 3, the claimed "wherein the application packets are self-contained" is met by

"[t]he distributed computing application may be divided into more than one code module, each

containing executable code for a different portion of the distributed computing application"

(Joseph 13:32-35).

As to claim 4, the claimed "wherein the selection of application code portions is

responsive to an identify of media packets being provided to at least one end-user" is met by

"[t]he packet data stream may also include packets of auxiliary data...it may be related to the

execution because the user 80 may interact with the executing program on the client computer 22

based on received auxiliary data" (Joseph 6:17-23) wherein code and data modules related to the

media packet are retrieved (Joseph 8:24-53).

As to claim 5, the claimed "wherein an end-user control unit controls a filtering process

of media packets and controls a display visual objects in response to events that are initiated by

an end-user" is met by client computer 22 stream selector 202 (Joseph 12:19-33) and "the client

computer 22 may, in response to execution of the executable code module, generate graphic

displays to supply information to the user 80" (Joseph 6:53-56) in response to events that are

initiated by an end-user (Joseph 12:51-13:16).

As to claim 6, the claimed "wherein the selection is responsive to the identify of filtered

media packets" is met by the selection of application packets that correspond to the filtered

media packets (Joseph 12:19-13:16).

As to claim 7, the claimed "wherein an application packet group comprises application

packets that allow for displaying a sequence of logically linked visual objects" is met by "the

distributed computing application may be divided into more than one code module, each

containing executable code for a different portion of the distributed computing application"

(Joseph 13:32-35).

As to claim 8, the claimed "wherein the control unit is further configured to filter

application packets allowing for a display of a selected visual object and for responding to events

related to the display of the selected visual object" is met by "[t]he data receiver in, for example,

client computer 22, continuously monitors the packets in the data stream on transport mechanism

30. When a packet including identification information indicating that it contains the code

module (or a portion of the code module) required by the client computer 22 is present in the

data stream the client computer 22 detects its presence, extracts the code module...from the

packet and stores it in main memory...There may be more than one code module placed in the

continuous data stream, each containing a different portion of the distributed computer

application. The portion of the distributed computing application currently needed to execute is

loaded into the memory of the client computer 22. When that portion has completed its

execution, then a code module containing the executable code of the next portion of the

distributed computing application is extracted from the data stream, stored in memory and

executed" (Joseph 5:2-30) wherein "[a]ny of the client computers 20 may join the distributed

computing function represented by the packet stream at any time, and each of the client

computers 20 may operate at its own speed, generally in response to the user 80" (Joseph 5:66-

6:2).

As to claim 9, the claimed "wherein the control unit filters application packets is

responsive to events that were previously initiated by an end-user" is met by "[b]ecause the code

and data modules related to the home shopping program are repetitively inserted into the data

stream, a viewer may tune into the program at any time and be able to participate interactively.

Similarly, it is not necessary for the viewer to participate interactively, but may simply ignore the

interactive portions of the show" (Joseph 9:5-10).

As to claim 12, the claimed "further configured to repeatedly transmit the application

packet groups" is met by "the server 10 repetitively places the directory and all the code and data

modules which the client computers 20 may require to perform their portion of the distributed

computing function into the data stream on the transport mechanism 30" (Joseph 6:3-7).

As to claim 16, the claimed "wherein at least some applications are advertisements" is met by an interactive commercial with its own executable code and data (Joseph 3:48-57).

As to claim 17, the claimed "wherein the control unit is a digital-set-top box and the display unit is a television set" is met by "[i]n such an interactive TV system, both the client computer 22 and the auxiliary data processor 50 may be contained in a single enclosure, such as a television receiver, or television set-top decoder box" (Joseph 7:8-10) wherein a television is inherent to the display of output from the television set-top decoder box.

As to claim 18, the claimed "wherein an application packet group includes application packets allowing for executing an application" is met by "the distributed computing application may be divided into more than one code module, each containing executable code for a different portion of the distributed computing application" (Joseph 13:32-35).

As to claim 19, the claimed "wherein application packets comprise an identification IID field" is met by "[e]ach packet has a constant predetermined length, and is generated by dividing the data stream from the flow builder into groups of bits, and adding a packet header with information identifying the information contained in the packet, and an error detection and/or correction code, etc., to each group, such that each packet is the same predetermined length" (Joseph 10:29-35).

As to claim 20, the claimed "wherein at least some of the application packets comprise a display period field" is met by time code data included in the interactive TV application packet (Joseph 6:65-7:7).

As to claim 84, note the Joseph et al. reference that discloses an apparatus for transmitting a distributed computing application on a broadcast television system.

The claimed "selecting application code portions to be embedded in application packets" is met by "a source of distributed computing application code and data 101 includes an application compiler, and software management module (not shown) and has an output terminal coupled to an input terminal of a flow builder 102" (Joseph 9:26-30) wherein "[f]low builder 102 processes the data from the application source 101...After this processing ins complete, the data representing directory module and the code and data modules are repetitively presented to the transport packetizer 104" (Joseph 10:23-26) and transmitted (Joseph 27-48).

The claimed "multiplexing the selected application code portions to form at least one application packet group" is met by multiplexing the application packets with the auxiliary data packets (Joseph 10:27-45).

The claimed "wherein the control unit of each end-user is configured to process the application packets of an application packets groups out of the at least one application packet group" is met by "[t]he combination of stream selector 202, auxiliary data extractor 204 and packet data extractor 206 form a data stream receiver 207 for client computer 22" for processing application packets (Joseph 12:19-33) wherein "the distributed computing application may be divided into more than one code module, each containing executable code for a different portion of the distributed computing application" (Joseph 13:32-35).

The claimed "and accordingly (i) display at least a portion of a visual object on the display unit, or (ii) react to events that are related to the display of the at least portion of the visual object on the display unit" is met by "the client computer 22 may, in response to execution of the executable code module, generate graphic displays to supply information to the user 80" (Joseph 6:53-56) wherein "[t]o retrieve this data, processor 210 first instructs stream I/O adapter 208 to

send a selection control signal to the stream selector 202, possibly in response to user input form

user I/O adapter 220. Then processor 210 issues a request for a specific code or data module to

the stream I/O adapter 208. Stream I/O adapter 208 relays this request to the packet data

extractor 204" (Joseph 12:58-67).

As to claim 85, the claimed "wherein an application packet group comprises application

packets allowing for executing an application" is met by "the distributed computing application

may be divided into more than one code module, each containing executable code for a different

portion of the distributed computing application" (Joseph 13:32-35).

"the distributed computing application may be divided into more than one code module, each

containing executable code for a different portion of the distributed computing application"

(Joseph 13:32-35).

As to claim 86, the claimed "further comprising a step of multiplexing the at least one

application packet groups with media packets to generate a multiplexed sequence" is met by

"[application] packets are time multiplexed with the auxiliary data packets, in a known manner,

to form a single packet stream in the packet multiplexer 106" (Joseph 10:37-40).

As to claim 87, the claimed "further comprising a step of transmitting the at least one

application packet groups to end-users" is met by the transmission of packets streams from all

channel sources, including application packets, to the user (Joseph 10:27-58; 12:19-33).

As to claim 88, the claimed "wherein some application packets further include code for

manipulating the at least portion of the visual object" is met by "[c]ode and data modules making

up the interactive television application may include data about the products which will be

offered for sale during this show, or portion of the shot, and executable code to interact with the

user...When a viewer wishes to order an item, a button is pressed on the TV remote control.

This button signals the client computer 22 to display a series of instructions and menus necessary

to solicit the information necessary to place the order...These instructions are generated in the

client computer as graphics which are overlaid on the television video image" (Joseph 8:24-53).

As to claim 89, the claimed "wherein the application packets are self-contained" is met

by "the distributed computing application may be divided into more than one code module, each

containing executable code for a different portion of the distributed computing application"

(Joseph 13:32-35).

As to claim 90, the claimed "further comprising a step of monitoring end-user

characteristics and wherein the step of selecting is responsive to the monitored end-user

characteristics" is met by "[t]he user 80 provides input to the program running on the client

computer 22 during its execution. This data may be required by the server 10 in order to effect

the distributed computing function" (Joseph 7:13-16) wherein "[s]erver computer 10 may

generate new, or modify existing, code and/or data modules in the data stream on the transport

mechanism 30, in a manner described below, based on that receive data" (Joseph 7:27-30).

As to claim 93, the claimed "wherein each end-user has a control unit coupled to and

controlling a display unit" is met by "[t]he client computer 22 interacts with a user 80 by

providing information to the user via a display screen...and by accepting information from the

user via a keyboard or other input device" (Joseph 4:16-20).

The claimed "wherein each control unit controls is configured to filter the media packets and to

display visual objects in response to events that are initiated by an end-user" is met by client

computer 22 stream selector 202 (Joseph 12:19-33) and "the client computer 22 may, in response

to execution of the executable code module, generate graphic displays to supply information to

the user 80" (Joseph 6:53-56) in response to events that are initiated by an end-user (Joseph

12:51-13:16).

As to claim 94, the claimed "wherein the selection is responsive to the identity of filtered

media packets" is met by the selection of application packets that correspond to the filtered

media packets (Joseph 12:19-13:16).

As to claim 95, the claimed "wherein group of media packets comprises application

packets that allow for displaying a sequence of logically linked visual objects" is met by "the

distributed computing application may be divided into more than one code module, each

containing executable code for a different portion of the distributed computing application"

(Joseph 13:32-35) and multiplexed with media packets (Joseph 10:27-48).

As to claim 96, the claimed "wherein each end-user has a control unit coupled to and

controlling a display unit" is met by "[t]he client computer 22 interacts with a user 80 by

providing information to the user via a display screen...and by accepting information from the

user via a keyboard or other input device" (Joseph 4:16-20).

The claimed "wherein the control unit is further configured to filter application packets allowing

for a display of a selected visual object and for responding to events related to the display of the

selected visual object" is met by "[t]he data receiver in, for example, client computer 22,

continuously monitors the packets in the data stream on transport mechanism 30. When a packet

including identification information indicating that it contains the code module (or a portion of

the code module) required by the client computer 22 is present in the data stream the client

computer 22 detects its presence, extracts the code module...from the packet and stores it in

main memory…There may be more than one code module placed in the continuous data stream, each containing a different portion of the distributed computer application. The portion of the distributed computing application currently needed to execute is loaded into the memory of the client computer 22. When that portion has completed its execution, then a code module containing the executable code of the next portion of the distributed computing application is extracted from the data stream, stored in memory and executed" (Joseph 5:2-30) wherein "[a]ny of the client computers 20 may join the distributed computing function represented by the packet stream at any time, and each of the client computers 20 may operate at its own speed, generally in response to the user 80" (Joseph 5:66-6:2).

As to claim 97, the claimed "wherein the control unit filters application packets in response to events that were previously initiated by an end-user" is met by "[b]ecause the code and data modules related to the home shopping program are repetitively inserted into the data stream, a viewer may tune into the program at any time and be able to participate interactively. Similarly, it is not necessary for the viewer to participate interactively, but may simply ignore the interactive portions of the show" (Joseph 9:5-10).

As to claim 100, the claimed "further configured to repeatedly transmit at least one application packet groups" is met by "the server 10 repetitively places the directory and all the code and data modules which the client computer 20 may require to perform their portion of the distributed computing function into the data stream on the transport mechanism 30" (Joseph 6:3-7).

As to claim 104, note the Joseph et al. reference that discloses an apparatus for transmitting a distributed computing application on a broadcast television system.

The claimed "receiving application packets and media packets" is met by the server receiving

application packets from the application source 101 and media packets from a source of auxiliary

data packets 107 (Joseph 9:25-65).

The claimed "dynamically selecting for each group of end-users, group-associated media packets

and application packets" is met by the multiplexing of the application packets and media packets

into a single packet stream (Joseph 10:27-45) wherein "[p]acket streams from all of the channel

sources (108, 108a) are multiplexed into a single transport channel" (Joseph 10:46-47).

The claimed "providing to each group of end-users, out of the at least one group of end-users, the

corresponding group-associated media packets and application packets" is met by the

transmission of the packet streams through transport mechanism 30 (Joseph 10:46-58).

The claimed "wherein application packets allow either for displaying a portion of a visual object

on a display unit, or for reacting to events that are related to the display of the at least portions of

the visual objects on the display unit" is met by "the client computer 22 may, in response to

execution of the executable code module, generate graphic displays to supply information to the

user 80" (Joseph 6:53-56) wherein "[t]o retrieve this data, processor 210 first instructs stream I/O

adapter 208 to send a selection control signal to the stream selector 202, possibly in response to

user input form user I/O adapter 220. Then processor 210 issues a request for a specific code or

data module to the stream I/O adapter 208. Stream I/O adapter 208 relays this request to the

packet data extractor 204" (Joseph 12:58-67).

As to claim 105, the claimed "wherein an application packet group includes application

packets allowing for executing an application" is met by "[a]s described above, the distributed

computing application may be divided into more than one code module, each containing

executable code for a different portion of the distributed computing application" (Joseph 13:33-35).

As to claim 106, the claimed "wherein the at least one group of end users are coupled to an application provider via a broadband multimedia system" is met by "it is possible to multiplex a plurality of such packet data streams over respective channels on the same physical medium (fiber optic or satellite radio link) making up the transport mechanism 30...Further, if a particular transponder has sufficient capacity, it is possible to time multiplex several data streams on a single modulated carrier" (Joseph 4:44-52). The claimed "and wherein the step of dynamically selecting comprising selecting session requests, for executing a session in which the broadband multimedia system provides application packets to a group of end-users" is met by "[i]n an interactive TV system, for example, user 80 may provide input to the client computer through a handheld remote control unit. The user data is transferred to the server computer 10 via the central processing facility 60...Server computer 10 may generate new, or modify existing, code and/or data modules in the data stream on the transport mechanism 30, in a manner described below, based on that received data. Alternatively, the server computer 10 may immediately return information to the client computers 20 in the other direction through the central processing facility. The information in newly generated code and/or data modules is processed by all client computer 20 participating in the distributed computing function, while information passed from the server computer 10 to the client computers 20 through the central processing facility 60 is specifically related to the client computer (22, 24, 26) to which that information was sent" (Joseph 7:16-39).

As to claim 107, note the Joseph et al. reference teaches "wherein the at least one group of end-users is coupled to an application provider" (Joseph 4:2-5) "via a broadband multimedia system" (Joseph 4:43-52) and media and application packets are transmitted to the users (Joseph 9:25-11:9) wherein it is inherent that resources be allocated in order to transmit media and application packets to the user.

As to claim 108, the claimed "wherein some application packets further include code for manipulating the at least portion of the visual object" is met by "[c]ode and data modules making up the interactive television application may include data about the products which will be offered for sale during this show, or portion of the shot, and executable code to interact with the user...When a viewer wishes to order an item, a button is pressed on the TV remote control. This button signals the client computer 22 to display a series of instructions and menus necessary to solicit the information necessary to place the order...These instructions are generated in the client computer as graphics which are overlaid on the television video image" (Joseph 8:24-53).

As to claim 109, the claimed "wherein the application packets are self-contained" is met by "[a]s described above, the distributed computing application may be divided into more than one code module, each containing executable code for a different portion of the distributed computing application" (Joseph 13:33-35).

As to claim 110, the claimed "wherein the dynamic selection is responsive to the identity of media packets provided to the group of end-users" is met by is met by "[t]he packet data stream may also include packets of auxiliary data...it may be related to the execution because the user 80 may interact with the executing program on the client computer 22 based on received

auxiliary data" (Joseph 6:17-23) wherein code and data modules related to the media packet are

retrieved (Joseph 8:24-53).

As to claim 111, the claimed "wherein each end-user has a control unit coupled to and

controlling a display unit" is met by "[t]he client computer 22 interacts with a user 80 by

providing information to the user via a display screen...and by accepting information from the

user via a keyboard or other input device" (Joseph 4:16-20).

The claimed "wherein each control unit controls is configured to filter the media packets and to

display visual objects in response to events that are initiated by an end-user" is met by client

computer 22 stream selector 202 (Joseph 12:19-33) and "the client computer 22 may, in response

to execution of the executable code module, generate graphic displays to supply information to

the user 80" (Joseph 6:53-56) in response to events that are initiated by an end-user (Joseph

12:51-13:16).

As to claim 112, the claimed "wherein the dynamic selection is responsive to the identity

of filtered media packets" is met by the selection of application packets that correspond to the

filtered media packets (Joseph 12:19-13:16).

As to claim 113, the claimed "wherein each group-associated application packets include

application packets that allow for displaying a sequence of logically linked visual objects" is met

by "the distributed computing application may be divided into more than one code module, each

containing executable code for a different portion of the distributed computing application"

(Joseph 13:32-35) and multiplexed with media packets (Joseph 10:27-48).

As to claim 114, the claimed "wherein each end-user has a control unit coupled to and

controlling a display unit" is met by "[t]he client computer 22 interacts with a user 80 by

providing information to the user via a display screen...and by accepting information from the

user via a keyboard or other input device" (Joseph 4:16-20).

The claimed "wherein the control unit is further configured to filter application packets allowing

for a display of a selected visual object and for responding to events related to the display of the

selected visual object" is met by "[t]he data receiver in, for example, client computer 22,

continuously monitors the packets in the data stream on transport mechanism 30. When a packet

including identification information indicating that it contains the code module (or a portion of

the code module) required by the client computer 22 is present in the data stream the client

computer 22 detects its presence, extracts the code module...from the packet and stores it in

main memory...There may be more than one code module placed in the continuous data stream,

each containing a different portion of the distributed computer application. The portion of the

distributed computing application currently needed to execute is loaded into the memory of the

client computer 22. When that portion has completed its execution, then a code module

containing the executable code of the next portion of the distributed computing application is

extracted from the data stream, stored in memory and executed" (Joseph 5:2-30) wherein "[a]ny

of the client computers 20 may join the distributed computing function represented by the packet

stream at any time, and each of the client computers 20 may operate at its own speed, generally

in response to the user 80" (Joseph 5:66-6:2).

As to claim 115, the claimed "wherein the control unit filters application packets in

response to events that were previously initiated by an end-user" is met by "[b]ecause the code

and data modules related to the home shopping program are repetitively inserted into the data

stream, a viewer may tune into the program at any time and be able to participate interactively.

Similarly, it is not necessary for the viewer to participate interactively, but may simply ignore the

interactive portions of the show" (Joseph 9:5-10).

As to claim 118, the claimed "further configured to repeatedly transit the group-

associated application packets" is met by "the server 10 produces continuous data stream in the

form of a stream of packets for the client computers 20. The server 10 repetitively inserts a

packet, or successive packets, containing data representing the distributed computing application,

including at least one executable code module, into the data stream" (Joseph 4:63-5:1).

As to claim 148 and 149, in respect to claims 1, 84, and 104, the claimed "wherein at

least one application packets embeds a portion of a code for displaying an advertisement" is met

by is met by an interactive commercial with its own executable code and data (Joseph 3:48-57)

wherein "[c]ode and data modules making up the interactive television application may include

data about the products which will be offered for sale during the show, or portion of the show,

and executable ode to interact with the user" (Joseph 8:24-35).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

10.   Claims 10-11, 91-92, 98-99, 116-117, and 119 rejected under 35 U.S.C. 103(a) as being

unpatentable over Joseph et al. (US 5,915,090).

As to claim 10, the claimed "wherein each control unit receives the application packets

via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs stream I/O adapter 208

to send a selection control signal to the stream selector 202 [tuner], possibly in response to user

input from user I/O adapter 220. Then processor 210 issues a request for a specific code or data

module to the stream I/O adapter 208. Stream I/O adapter 208 relays this request to the packet

data extractor 204...Packet data extractor 206 similarly monitors the selected packet stream,

extracts the directory, code and/or data module packets requested by the stream I/O adapter 208

and supplied them to the stream I/O adapter 208" (Joseph 12:58-13:16). Further note, the Joseph

et al. reference discloses "[t]he user data is transferred to the server computer 10 via the central

processing facility 60...Server computer 10 may generate new, or modify existing, code and/or

data modules in the data stream on the transport mechanism 30, in a manner described below,

based on the received data" (Joseph 7:7-39). However, the Joseph et al. reference is silent as to

the claimed "and wherein the system is further configured to adjust application packets

transmission parameters in response to a status of the tuner." Nevertheless, the examiner gives

Official Notice that it is notoriously well known in the art to identify requested content by the

channel number tuned for the purpose of using readily available information, that does not

require the transmission of additional identification information, to facilitate the retrieval of

information. Therefore, the examiner submits that it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the Joseph et al. receipt of

application packets from a tuner and generating new, or modifying existing, code and/or data

modules accordingly for the above stated advantages.

As to claim 11, the claimed "wherein each control unit receives the application packets

and media packets via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs

stream I/O adapter 208 to send a selection control signal to the stream selector 202 [tuner],

possibly in response to user input from user I/O adapter 220. Then processor 210 issues a

request for a specific code or data module to the stream I/O adapter 208. Stream I/O adapter 208

relays this request to the packet data extractor 204...Packet data extractor 206 similarly monitors

the selected packet stream, extracts the directory, code and/or data module packets requested by

the stream I/O adapter 208 and supplied them to the stream I/O adapter 208" (Joseph 12:58-

13:16) wherein "[t]he packet data stream may also include packets of auxiliary data" (Joseph

6:17-22). Further note, the Joseph et al. reference discloses "[t]he user data is transferred to the

server computer 10 via the central processing facility 60...Server computer 10 may generate

new, or modify existing, code and/or data modules in the data stream on the transport mechanism

30, in a manner described below, based on the received data" (Joseph 7:7-39). However, the

Joseph et al. reference is silent as to the claimed "and wherein the system is further configured to

adjust application packets transmission parameters in response to a status of the tuner."

Nevertheless, the examiner gives Official Notice that it is notoriously well known in the art to

identify requested content by the channel number tuned for the purpose of using readily available

information, that does not require the transmission of additional identification information, to

facilitate the retrieval of information. Therefore, the examiner submits that it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify the

Joseph et al. receipt of application packets from a tuner and generating new, or modifying

existing, code and/or data modules accordingly for the above stated advantages.

As to claims 91 and 92, note the Joseph et al. reference discloses "[t]he user 80 provides

input to the program running on the client computer 22 during its execution. This data may be

required by the server 10 in order to effect the distributed computing function...Server computer

10 may generate new, or modify existing, code and/or data modules in the data stream on the

transport mechanism 30, in a manner described below, based on that receive data" (Joseph 7:13-

39). However, the Joseph et al. reference is silent as to the user data including the identity of

media packets provided to the end-user/end-user reception characteristics. Nevertheless, the

examiner gives Official Notice that it is notoriously well known in the art to identify requests for

additional information/applications by the media identifier for the purpose of providing a method

for the server to retrieve the correct information/application corresponding to the media.

Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the

art at the time the invention was made to modify the Joseph et al. user data accordingly for the

purpose of facilitating the retrieval of corresponding applications and thus generate new, or

modify existing, code and/or data modules in the data stream on the transport mechanism 30.

As to claim 98, the claimed "wherein each control unit receives the application packets

via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs stream I/O adapter 208

to send a selection control signal to the stream selector 202 [tuner], possibly in response to user

input from user I/O adapter 220. Then processor 210 issues a request for a specific code or data

module to the stream I/O adapter 208. Stream I/O adapter 208 relays this request to the packet

data extractor 204…Packet data extractor 206 similarly monitors the selected packet stream,

extracts the directory, code and/or data module packets requested by the stream I/O adapter 208

and supplied them to the stream I/O adapter 208" (Joseph 12:58-13:16). Further note, the Joseph

et al. reference discloses "[t]he user data is transferred to the server computer 10 via the central

processing facility 60…Server computer 10 may generate new, or modify existing, code and/or

data modules in the data stream on the transport mechanism 30, in a manner described below,

based on the received data" (Joseph 7:7-39). However, the Joseph et al. reference is silent as to

the claimed "and wherein the system is further configured to adjust application packets

transmission parameters in response to a status of the tuner." Nevertheless, the examiner gives

Official Notice that it is notoriously well known in the art to identify requested content by the

channel number tuned for the purpose of using readily available information, that does not

require the transmission of additional identification information, to facilitate the retrieval of

information. Therefore, the examiner submits that it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the Joseph et al. receipt of

application packets from a tuner and generating new, or modifying existing, code and/or data

modules accordingly for the above stated advantages.

As to claim 99, the claimed "wherein each control unit receives the application packets

and media packets via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs

stream I/O adapter 208 to send a selection control signal to the stream selector 202 [tuner],

possibly in response to user input from user I/O adapter 220. Then processor 210 issues a

request for a specific code or data module to the stream I/O adapter 208. Stream I/O adapter 208

relays this request to the packet data extractor 204...Packet data extractor 206 similarly monitors

the selected packet stream, extracts the directory, code and/or data module packets requested by

the stream I/O adapter 208 and supplied them to the stream I/O adapter 208" (Joseph 12:58-

13:16) wherein "[t]he packet data stream may also include packets of auxiliary data" (Joseph

6:17-22). Further note, the Joseph et al. reference discloses "[t]he user data is transferred to the

server computer 10 via the central processing facility 60...Server computer 10 may generate

new, or modify existing, code and/or data modules in the data stream on the transport mechanism

30, in a manner described below, based on the received data" (Joseph 7:7-39). However, the

Joseph et al. reference is silent as to the claimed "and wherein the system is further configured to

adjust application packets transmission parameters in response to a status of the tuner."

Nevertheless, the examiner gives Official Notice that it is notoriously well known in the art to

identify requested content by the channel number tuned for the purpose of using readily available

information, that does not require the transmission of additional identification information, to

facilitate the retrieval of information. Therefore, the examiner submits that it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify the

Joseph et al. receipt of application packets from a tuner and generating new, or modifying

existing, code and/or data modules accordingly for the above stated advantages.

As to claim 116, the claimed "wherein each control unit receives the application packets

via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs stream I/O adapter 208

to send a selection control signal to the stream selector 202 [tuner], possibly in response to user

input from user I/O adapter 220. Then processor 210 issues a request for a specific code or data

module to the stream I/O adapter 208. Stream I/O adapter 208 relays this request to the packet

data extractor 204...Packet data extractor 206 similarly monitors the selected packet stream,

extracts the directory, code and/or data module packets requested by the stream I/O adapter 208

and supplied them to the stream I/O adapter 208" (Joseph 12:58-13:16). Further note, the Joseph

et al. reference discloses "[t]he user data is transferred to the server computer 10 via the central

processing facility 60...Server computer 10 may generate new, or modify existing, code and/or

data modules in the data stream on the transport mechanism 30, in a manner described below,

based on the received data" (Joseph 7:7-39) wherein the packets are modulated (Joseph 10:46-

58). However, the Joseph et al. reference is silent as to the claimed "and wherein the system is

further configured to modulate application packets in response to a status of the tuner."

Nevertheless, the examiner gives Official Notice that it is notoriously well known in the art to

identify requested content by the channel number tuned for the purpose of using readily available

information, that does not require the transmission of additional identification information, to

facilitate the retrieval of information. Therefore, the examiner submits that it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify the

Joseph et al. receipt of application packets from a tuner and generating new, or modifying

existing, code and/or data modules accordingly for the above stated advantages.

As to claim 117, the claimed "wherein each control unit receives the application packets

and media packets via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs

stream I/O adapter 208 to send a selection control signal to the stream selector 202 [tuner],

possibly in response to user input from user I/O adapter 220. Then processor 210 issues a

request for a specific code or data module to the stream I/O adapter 208. Stream I/O adapter 208

relays this request to the packet data extractor 204...Packet data extractor 206 similarly monitors

the selected packet stream, extracts the directory, code and/or data module packets requested by

the stream I/O adapter 208 and supplied them to the stream I/O adapter 208" (Joseph 12:58-

13:16) wherein "[t]he packet data stream may also include packets of auxiliary data" (Joseph

6:17-22). Further note, the Joseph et al. reference discloses "[t]he user data is transferred to the

server computer 10 via the central processing facility 60...Server computer 10 may generate

new, or modify existing, code and/or data modules in the data stream on the transport mechanism

30, in a manner described below, based on the received data" (Joseph 7:7-39) wherein the

packets are modulated (Joseph 10:46-58). However, the Joseph et al. reference is silent as to the

claimed "and wherein the system is further configured to modulate application packets in

response to a status of the tuner." Nevertheless, the examiner gives Official Notice that it is

notoriously well known in the art to identify requested content by the channel number tuned for

the purpose of using readily available information, that does not require the transmission of

additional identification information, to facilitate the retrieval of information. Therefore, the

examiner submits that it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify the Joseph et al. receipt of application packets from a tuner

and generating new, or modifying existing, code and/or data modules accordingly for the above

stated advantages.

As to claim 119, the claimed "further comprising at least one media degradation unit, for

compressing packets." Note, the Joseph et al. reference discloses "[i]n an interactive TV system,

for example, the auxiliary data includes the video and audio portions of the underlying television

signal. For example, the auxiliary data would include video packets containing MPEG, or

MPEG-like, encoded data representing the television image and audio packets containing

digitally encoded audio" (Joseph 6:36-52) wherein the auxiliary data is provided by auxiliary

data source (Joseph 9:46-56). However, the Joseph et al. reference is silent as to at least one

media degradation unit. Nevertheless, the examiner gives Official Notice that it is notoriously

well known in the art to employ a media degradation unit in order to encode uncompressed

media for the purpose of conserving transmission bandwidth. Therefore, the examiner submits

that it would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify the Joseph auxiliary data source accordingly for the purpose of providing a

source of MPEG auxiliary data for transmission to the user and thus conserving bandwidth.

11.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joseph et al. (US

5,915,090) in further view of Shoff et al. (US 6,240,555 B1).

As to claim 22, the claimed "wherein at least some of the application packets further

comprise a location field indicative of a location of the portion of the visual object on the display

unit." Note the Joseph et al. reference discloses "the client computer 22 may, in response to

execution of the executable code module, generate graphic displays to supply information to the

user 80" (Joseph 6:53-56) for example "[w]he a viewer wishes to order an item, a button is

pressed on the TV remote control. This button signals the client computer 22 to display a series

of instructions and menus necessary to solicit the information necessary to place the order, e.g.

the item number, a name and address of the viewer, the method of payment, the credit card

number (if needed), etc. These instructions are generated in the client computer as graphics

which are overlaid on the television video image" (Joseph 8:36-53). However, the Joseph et al.

reference is silent as to a location field. Now note the Shoff et al. reference that discloses an

interactive entertainment system for presenting supplemental interactive content together with

continuous video programs. The claimed "location field" is met by the timing information and

display layout are extracted from the supplemental content wherein the display layout

"prescribes the size, style, location, and other parameters for presenting the supplemental

content" (Shoff 10:34-53). Therefore, the examiner submits that it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify the Joseph et al.

application packets for display of interactive content with the Shoff et al. interactive content with

location fields for the purpose of providing presentation of the interactive content in the manner

envisioned by the developer and to provide flexibility in how such interactive content is

displayed.

12.   Claims 13-14, 21, 101-102, and 120-121 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Joseph et al. (US 5,915,090) in further view of Son et al. (US 2006/0064728

A1).

As to claim 13, the claimed "wherein at least some media signals [...] are MPEG

compliant" is met by "the auxiliary data would include video packets containing MPEG" (Joseph

6:36-52). Also note the Joseph et al. reference discloses media signals and application packets

are multiplexed to form a transport channel (Joseph 10:27-48). However, the Joseph et al.

reference does not specifically disclose "wherein at least some [...] application packets are

MPEG compliant." Now note the Son et al. reference that discloses a method and apparatus

providing process independence within a heterogeneous information distribution system. The

claimed "wherein at least some [...] application packets are MPEG compliant" is met by the

assets (applications) are MPEG-2 transport packets (Son [0021]). Therefore, the examiner

submits that it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the Joseph application packets with the Son et al. MPEG

compliant application packets for the purpose allowing the application packets to be readily

inserted into a MPEG transport stream and transmitted in manner that conserves transmission

bandwidth and thus increase the amount of programming and applications that may be

transmitted to a user for their entertainment.

As to claim 14, please see rejection of claim 13.

As to claim 21, note the Joseph et al. reference discloses "[i]n such an interactive TV system, the client computer 22 may, in response to execution of the executable code module, generate graphic displays to supply information to the user 80" (Joseph 6:54-56). However, the Joseph et al. reference does not specifically disclose the claimed "wherein at least some of the application packets comprise a bit map of a portion of a visual object." Now note the Son et al. that discloses a method and apparatus providing process independence within a heterogeneous information distribution system wherein assets include bit map text or imagery, graphic overlay, control scripts and the like for providing interactivity to the users (Son [0021]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Joseph application packets with the Son et al. application packets including bit map of a portion of a visual object for the purpose of providing image information to be generated for graphic display and thereby facilitate user interactivity at the client device.

As to claim 101, Note the Joseph et al. reference discloses media signals and application packets are multiplexed to form a transport channel (Joseph 10:27-48). However, the Joseph et al. reference does not specifically disclose "wherein at least some of the application packets are MPEG compliant." Now note the Son et al. reference that discloses a method and apparatus providing process independence within a heterogeneous information distribution system. The claimed "wherein at least some of the application packets are MPEG compliant" is met by the assets (applications) are MPEG-2 transport packets (Son [0021]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Joseph application packets with the Son et al. MPEG

compliant application packets for the purpose allowing the application packets to be readily

inserted into a MPEG transport stream and transmitted in manner that conserves transmission

bandwidth and thus increase the amount of programming and applications that may be

transmitted to a user for their entertainment.

As to claim 102, please see rejection of claim 101.

As to claim 120, the claimed "wherein at least some media signals [...] are MPEG

compliant" is met by "the auxiliary data would include video packets containing MPEG" (Joseph

6:36-52). Also note the Joseph et al. reference discloses media signals and application packets

are multiplexed to form a transport channel (Joseph 10:27-48). However, the Joseph et al.

reference does not specifically disclose "wherein at least some [...] application packets are

MPEG compliant." Now note the Son et al. reference that discloses a method and apparatus

providing process independence within a heterogeneous information distribution system. The

claimed "wherein at least some [...] application packets are MPEG compliant" is met by the

assets (applications) are MPEG-2 transport packets (Son [0021]). Therefore, the examiner

submits that it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the Joseph application packets with the Son et al. MPEG

compliant application packets for the purpose allowing the application packets to be readily

inserted into a MPEG transport stream and transmitted in manner that conserves transmission

bandwidth and thus increase the amount of programming and applications that may be

transmitted to a user for their entertainment.

As to claim 121, please see rejection of claim 120.

13.   Claims 15, 103, and 122 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Joseph et al. (US 5,915,090) in further view of Metz et al. (US 5,768,539).

As to claim 15, the claimed "further adapted to download an interactive software to the

set-top control unit, the interactive software allowing the control unit to receive, filter and

process application packets." Note the Joseph et al. reference discloses a processor, under

control of operating system software, controls the receiving, filtering, and processing of

application packets wherein the operating system may be permanently stored or temporarily

stored on the client device (Joseph 12:51-13:16). However, the Joseph et al. reference is silent as

to how the operating system is provided to the client device. Now note the Metz et al. reference

that discloses downloading applications software through a broadcast channel wherein a set-top

terminal receives and stores downloaded application software and processes digital video

information received through the network as well as operating system software through the

network (Metz 7:33-38) wherein the operating system defines the basic functionality of the set-

top box and thus is inherently downloaded prior to the receipt of application downloads (Metz

9:36-45). Therefore, the examiner submits that it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the Joseph et al. operating system

with the Metz et al. downloading an operating system for the purpose of providing the client

device a means for acquiring an operating system as well as providing a means to easily

upgrading the client device functionality in the future.

As to claim 103, the claimed "further adapted to download an interactive software to the

set-top control unit, the interactive software allowing the control unit to receive, filter and

process application packets." Note the Joseph et al. reference discloses a processor, under

control of operating system software, controls the receiving, filtering, and processing of

application packets wherein the operating system may be permanently stored or temporarily

stored on the client device (Joseph 12:51-13:16). However, the Joseph et al. reference is silent as

to how the operating system is provided to the client device. Now note the Metz et al. reference

that discloses downloading applications software through a broadcast channel wherein a set-top

terminal receives and stores downloaded application software and processes digital video

information received through the network as well as operating system software through the

network (Metz 7:33-38) wherein the operating system defines the basic functionality of the set-

top box and thus is inherently downloaded prior to the receipt of application downloads (Metz

9:36-45). Therefore, the examiner submits that it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the Joseph et al. operating system

with the Metz et al. downloading an operating system for the purpose of providing the client

device a means for acquiring an operating system as well as providing a means to easily

upgrading the client device functionality in the future.

As to claim 122, the claimed "further adapted to download an interactive software to the

set-top control unit, the interactive software allowing the control unit to receive, filter and

process application packets." Note the Joseph et al. reference discloses a processor, under

control of operating system software, controls the receiving, filtering, and processing of

application packets wherein the operating system may be permanently stored or temporarily

stored on the client device (Joseph 12:51-13:16). However, the Joseph et al. reference is silent as

to how the operating system is provided to the client device. Now note the Metz et al. reference

that discloses downloading applications software through a broadcast channel wherein a set-top

terminal receives and stores downloaded application software and processes digital video

information received through the network as well as operating system software through the

network (Metz 7:33-38) wherein the operating system defines the basic functionality of the set-

top box and thus is inherently downloaded prior to the receipt of application downloads (Metz

9:36-45). Therefore, the examiner submits that it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the Joseph et al. operating system

with the Metz et al. downloading an operating system for the purpose of providing the client

device a means for acquiring an operating system as well as providing a means to easily

upgrading the client device functionality in the future.

14.   Claims 23-31, 34-37, and 39-42 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Joseph et al. (US 5,915,090) in further view of Son et al. (US 6,240,553 B1).

        As to claim 23, note the Joseph et al. reference that discloses an apparatus for

transmitting a distributed computing application on a broadcast television system.

The Joseph et al. reference further discloses ""[t]he user data is transferred to the server

computer 10 via the central processing facility 60…Server computer 10 may generate new, or

modify existing, code and/or data modules in the data stream on the transport mechanism 30, in a

manner described below, based on that received data. Alternatively, the server computer 10 may

immediately return information to the client computers 20 in the other direction through the

central processing facility 60. The information in newly generated code and/o data modules is

processed by all client computers 20 participating in the distributed computing function, while

information passed from the server computer 10 to the client computers 20 through the central

processing facility 60 is specifically related to the client computer (22, 24, 26) to which that

information was sent" (Joseph 7:13-39). Thus the Joseph et al. reference discloses that the server

computer (session manager) may transmit data to all client computers or a particular group of

client computers. However, the Joseph et al. reference is silent as to a router. Now note the Son

et al. reference that discloses a method for providing scalable in-band and out-of-band access to

digital services comprising interactive shopping services, internet access services, telephone

directory and other information services (Son 5:25-41). The claimed "a router, coupled to the

control unit of the end-users" is met by access controllers (routers) coupled to control unit of the

end-users wherein "each of the access controllers 155 provides information services and

interactive control and messaging services to a respective group of subscribers or users of the

system" (Son 6:13-15). The claimed "the router operative to receive application packets and

media packets" is met by "[e]ach access controller 155 is also depicted as being coupled to

receive the output stream OUT produced by the information server 125. The output stream OUT

produced by the information server 125 typically comprises a high speed serial output line in

which video content, other content and asset data to be provided to subscriber equipment has

been transport encoded according to, for example, the MPEG standards" (Son 5:52-59).

The claimed "and to provide group-associated application packets and media packets to control

units of a group of end-users" is met by each of the access controllers 155 provides information

services and interactive control and messaging services to a respective group of subscribers or

users of the system" (Son 6:13-15). The claimed "a session manager, coupled to the router" is

met by "[e]ach of the access controllers 155 is depicted as being coupled to the session controller

145 via an Ethernet link DATA" (Son 5:47-49). The claimed "the session manager providing

routing instructions to said router" is met by "[t]he session controller 145 provides session

control of the information flowing to and from the information server 125, and may be generally

described as a system providing or controlling communications between, for example, a cable

system head-end and one or more set top terminals 136" (Son 3:25-29). Therefore, the examiner

submits that it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the Joseph et al. server computer for providing media and

application packets with the Son et al. router and session controller for providing media and

application packets for the purpose of providing a means for routing the appropriate packets to

corresponding client devices in a manner that conserves bandwidth such that bandwidth for

connections to groups of users that do not require the packets is not wasted. The claimed "for

dynamically selecting group-associated application packets and media packets out of the

received application packets and media packets" is met by "[s]erver computer 10 may generate

new, or modify existing, code and/or data modules in the data stream on the transport mechanism

30...The information in newly generated code and/or data modules is processed by all client

computers 20 participating in the distributed computing function, while information passed from

the server computer 10 to the client computers 20 through the central processing facility 60 is

specifically related to the client computer (22, 24, 26) to which that information was sent"

(Joseph 7:27-39). The claimed "wherein the control unit of each end-user is configured to

process the application packets" is met by "[t]he combination of stream selector 202, auxiliary

data extractor 204 and packet data extractor 206 form a data stream receiver 207 for client

computer 22" for processing application packets (Joseph 12:19-33) wherein "the distributed

computing application may be divided into more than one code module, each containing

executable code for a different portion of the distributed computing application" (Joseph 13:32-

35). The claimed "and accordingly (i) display at least a portion of a visual object on the display

unit, or (ii) react to events that are related to the display of the at least portion of the visual object

on the display unit" is met by "the client computer 22 may, in response to execution of the

executable code module, generate graphic displays to supply information to the user 80" (Joseph

6:53-56) wherein "[t]o retrieve this data, processor 210 first instructs stream I/O adapter 208 to

send a selection control signal to the stream selector 202, possibly in response to user input form

user I/O adapter 220. Then processor 210 issues a request for a specific code or data module to

the stream I/O adapter 208. Stream I/O adapter 208 relays this request to the packet data

extractor 204" (Joseph 12:58-67).

As to claim 24, the claimed "wherein some application packets further include code for

manipulating the at least portion of the visual object" is met by "[c]ode and data modules making

up the interactive television application may include data about the products which will be

offered for sale during this show, or portion of the shot, and executable code to interact with the

user...When a viewer wishes to order an item, a button is pressed on the TV remote control.

This button signals the client computer 22 to display a series of instructions and menus necessary

to solicit the information necessary to place the order...These instructions are generated in the

client computer as graphics which are overlaid on the television video image" (Joseph 8:24-53).

As to claim 25, the claimed "wherein the application packets are self-contained" is met

by "the distributed computing application may be divided into more than one code module, each

containing executable code for a different portion of the distributed computing application"

(Joseph 13:32-35).

As to claim 26, the claimed "wherein the dynamic selection is responsive to the identity of media packets provided to the group of end-users" is met by is met by "[t]he packet data stream may also include packets of auxiliary data…it may be related to the execution because the user 80 may interact with the executing program on the client computer 22 based on received auxiliary data" (Joseph 6:17-23) wherein code and data modules related to the media packet are retrieved (Joseph 8:24-53).

As to claim 27, the claimed "wherein each control unit is configured to filter the media packets and to display visual objects in response to events that are initiated by an end-user" is met by client computer 22 stream selector 202 (Joseph 12:19-33) and "the client computer 22 may, in response to execution of the executable code module, generate graphic displays to supply information to the user 80" (Joseph 6:53-56) in response to events that are initiated by an end-user (Joseph 12:51-13:16).

As to claim 28, the claimed "wherein the dynamic selection is responsive to the identity of filtered media packets" is met by the selection of application packets that correspond to the filtered media packets (Joseph 12:19-13:16).

As to claim 29, the claimed "wherein each group-associated application packet including application packets that allow for displaying at least one sequence of logically linked visual objects" is met by "distributed computing application may be divided into more than one code module, each containing executable code for a different portion of the distributed computing application" (Joseph 13:32-35).

As to claim 30, the claimed "wherein the control unit is further configured to filter application packets allowing for display of a selected visual object and for responding to events

related to the display of the selected visual object" is met by "[t]he data receiver in, for example, client computer 22, continuously monitors the packets in the data stream on transport mechanism 30. When a packet including identification information indicating that it contains the code module (or a portion of the code module) required by the client computer 22 is present in the data stream the client computer 22 detects its presence, extracts the code module...from the packet and stores it in main memory...There may be more than one code module placed in the continuous data stream, each containing a different portion of the distributed computer application. The portion of the distributed computing application currently needed to execute is loaded into the memory of the client computer 22. When that portion has completed its execution, then a code module containing the executable code of the next portion of the distributed computing application is extracted from the data stream, stored in memory and executed" (Joseph 5:2-30) wherein "[a]ny of the client computers 20 may join the distributed computing function represented by the packet stream at any time, and each of the client computers 20 may operate at its own speed, generally in response to the user 80" (Joseph 5:66-6:2).

As to claim 31, the claimed "wherein the control unit filters application packets is responsive to events that were previously initiated by an end-user" is met by "[b]ecause the code and data modules related to the home shopping program are repetitively inserted into the data stream, a viewer may tune into the program at any time and be able to participate interactively. Similarly, it is not necessary for the viewer to participate interactively, but may simply ignore the interactive portions of the show" (Joseph 9:5-10).

As to claim 34, the claimed "further configured to repeatedly transit the group-associated application packets" is met by "the server 10 repetitively places the directory and all the code and data modules which the client computers 20 may require to perform their portion of the distributed computing function into the data stream on the transport mechanism 30" (Joseph 6:3-7).

As to claim 35, the claimed "further comprising at least one media degradation unit, for compressing packets." Note, the Joseph et al. reference discloses "[i]n an interactive TV system, for example, the auxiliary data includes the video and audio portions of the underlying television signal. For example, the auxiliary data would include video packets containing MPEG, or MPEG-like, encoded data representing the television image and audio packets containing digitally encoded audio" (Joseph 6:36-52) wherein the auxiliary data is provided by auxiliary data source (Joseph 9:46-56). However, the Joseph et al. reference is silent as to at least one media degradation unit. Nevertheless, the examiner gives Official Notice that it is notoriously well known in the art to employ a media degradation unit in order to encode uncompressed media for the purpose of conserving transmission bandwidth. Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Joseph auxiliary data source accordingly for the purpose of providing a source of MPEG auxiliary data for transmission to the user and thus conserving bandwidth.

As to claim 36, the claimed "wherein at least some of the media signals and application packets are MPEG compliant" is met by Joseph and Son et al. combination as discussed in the rejection of claim 23.

As to claim 37, please see rejection of claim 36.

As to claim 39, the claimed "further comprising network transmitters for transmitting to

each group of end-users group-associated application packets over a bandwidth limited media" is

met by "[p]acket streams from all of the channel sources (108, 108a) are multiplexed into a

single transport channel, which is transmitted through transport mechanism 30. As described

above, the packet streams may be frequency multiplexed by having each packet stream modulate

a carrier signal at a different frequency, with all of the carriers being carried by a satellite link to

the client computers..." (Joseph 10:46-58).

As to claim 40, the claimed "further comprising a dynamic network restructuring unit,

coupled to the network transmitters, for providing channel managing commands to each said

network transmitters, receiving group-associated application packets from said router" is met by

"[s]erver computer 10 may generate new, or modify existing, code and/or data modules in the

data stream on the transport mechanism 30, in a manner described below, based on that received

data" (Joseph 7:27-33).

As to claim 41, note the Joseph and Son et al. combination, as discussed in the rejection

of claim 23, teaches a session manager for receiving a plurality of session requests and for

executing a session through the system. The Son et al. reference also discloses "said session

manager provides resource allocation parameters for each allowed sessions" wherein "[t]he

session controller 145 provides session control of the information flowing to and from the

information server 125, and may be generally described as a system providing or controlling

communications between, for example, a cable system head-end and one or more set top

terminals 136...The session controller 145 controls and updates the transport processor 150 via

communications passed to the transport processor 150 via the data bus DATA" (Son 3:20-45).

However, the Joseph and Son et al. combination is silent as to the session manager either allows

or denies each said session requests. Nevertheless, the examiner gives Official Notice that it is

notoriously well known in the art to cause a Session Manager to allow or deny requests for

service based on the available bandwidth within the network in order to prevent degradation or

interruption to current services. Therefore, the examiner submits that it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify the

Joseph and Son et al. combination accordingly for the above stated advantages.

As to claim 42, the claimed "wherein each group associated application packets comprise

of at least one application packet groups, each application packet groups comprises application

packets allowing for executing an application" is met by "the distributed computing application

may be divided into more than one code module, each containing executable code for a different

portion of the distributed computing application" (Joseph 13:32-35).

15.   Claims 32, 33, and 148 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Joseph et al. (US 5,915,090).

As to claim 32, the claimed "wherein each control unit receives the application packets

via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs stream I/O adapter 208

to send a selection control signal to the stream selector 202 [tuner], possibly in response to user

input from user I/O adapter 220. Then processor 210 issues a request for a specific code or data

module to the stream I/O adapter 208. Stream I/O adapter 208 relays this request to the packet

data extractor 204...Packet data extractor 206 similarly monitors the selected packet stream,

extracts the directory, code and/or data module packets requested by the stream I/O adapter 208

and supplied them to the stream I/O adapter 208" (Joseph 12:58-13:16).

Further note, the Joseph et al. reference discloses "[t]he user data is transferred to the server

computer 10 via the central processing facility 60…Server computer 10 may generate new, or

modify existing, code and/or data modules in the data stream on the transport mechanism 30, in a

manner described below, based on the received data" (Joseph 7:7-39) wherein the packets are

modulated (Joseph 10:46-58). However, the Joseph et al. reference is silent as to the claimed

"and wherein the system is further configured to modulate application packets in response to a

status of the tuner." Nevertheless, the examiner gives Official Notice that it is notoriously well

known in the art to identify requested content by the channel number tuned for the purpose of

using readily available information, that does not require the transmission of additional

identification information, to facilitate the retrieval of information. Therefore, the examiner

submits that it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the Joseph et al. receipt of application packets from a tuner and

generating new, or modifying existing, code and/or data modules accordingly for the above

stated advantages.

As to claim 33, the claimed "wherein each control unit receives the application packets

and media packets via a tuner" is met by "[t]o retrieve this data, processor 210 first instructs

stream I/O adapter 208 to send a selection control signal to the stream selector 202 [tuner],

possibly in response to user input from user I/O adapter 220. Then processor 210 issues a

request for a specific code or data module to the stream I/O adapter 208. Stream I/O adapter 208

relays this request to the packet data extractor 204…Packet data extractor 206 similarly monitors

the selected packet stream, extracts the directory, code and/or data module packets requested by

the stream I/O adapter 208 and supplied them to the stream I/O adapter 208" (Joseph 12:58-

13:16) wherein "[t]he packet data stream may also include packets of auxiliary data" (Joseph

6:17-22). Further note, the Joseph et al. reference discloses "[t]he user data is transferred to the

server computer 10 via the central processing facility 60...Server computer 10 may generate

new, or modify existing, code and/or data modules in the data stream on the transport mechanism

30, in a manner described below, based on the received data" (Joseph 7:7-39) wherein the

packets are modulated (Joseph 10:46-58). However, the Joseph et al. reference is silent as to the

claimed "and wherein the system is further configured to modulate application packets in

response to a status of the tuner." Nevertheless, the examiner gives Official Notice that it is

notoriously well known in the art to identify requested content by the channel number tuned for

the purpose of using readily available information, that does not require the transmission of

additional identification information, to facilitate the retrieval of information. Therefore, the

examiner submits that it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify the Joseph et al. receipt of application packets from a tuner

and generating new, or modifying existing, code and/or data modules accordingly for the above

stated advantages.

As to claim 148, in respect to claim 23, the claimed "wherein at least one application

packets embeds a portion of a code for displaying an advertisement" is met by is met by an

interactive commercial with its own executable code and data (Joseph 3:48-57) wherein "[c]ode

and data modules making up the interactive television application may include data about the

products which will be offered for sale during the show, or portion of the show, and executable

ode to interact with the user" (Joseph 8:24-35).

16.   Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joseph et al. (US

5,915,090) in further view of Son et al. (US 6,240,553 B1) and Metz et al. (US 5,768,539).

As to claim 38, the claimed "further adapted to download an interactive software to the

set-top control unit, the interactive software allowing the control unit to receive, filter and

process application packets." Note the Joseph et al. reference discloses a processor, under

control of operating system software, controls the receiving, filtering, and processing of

application packets wherein the operating system may be permanently stored or temporarily

stored on the client device (Joseph 12:51-13:16). However, the Joseph et al. reference is silent as

to how the operating system is provided to the client device. Now note the Metz et al. reference

that discloses downloading applications software through a broadcast channel wherein a set-top

terminal receives and stores downloaded application software and processes digital video

information received through the network as well as operating system software through the

network (Metz 7:33-38) wherein the operating system defines the basic functionality of the set-

top box and thus is inherently downloaded prior to the receipt of application downloads (Metz

9:36-45). Therefore, the examiner submits that it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the Joseph et al. operating system

with the Metz et al. downloading an operating system for the purpose of providing the client

device a means for acquiring an operating system as well as providing a means to easily

upgrading the client device functionality in the future.

Allowable Subject Matter

17.   Claims 43-54, 123-128, 148 (with respect to claim 43), and 149 (with respect to claim

123) are objected to as being dependent upon a rejected base claim, but would be allowable if

rewritten in independent form including all of the limitations of the base claim and any

intervening claims.

Conclusion

18.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

The Mills et al. reference (US 6,055,560) discloses a system and method to provide

interactivity for a networked video server.

The Alao et al. reference (US 2002/0138848 A1) discloses a service gateway for

interactive television wherein the service gateway provides asymmetrical routing.

The Freeman et al. reference (US 2004/0261127 A1) discloses a digital interactive

system for providing full interactivity with programming events wherein selections of the video,

audio, graphics displays and/or web pages can be based on a prestored viewer profile.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Johnny Ma whose telephone number is (571) 272-7351. The

examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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